CCNA 2 v7 Modules 14 – 16: Routing Concepts and Configuration Exam Answer

Question 1

41. What route would have the lowest administrative distance?

- a route received through the OSPF routing protocol
- **a directly connected network**
- a static route
- a route received through the EIGRP routing protocol

Explanation: The most believable route or the route with the lowest administrative distance is one that is directly connected to a router.

Question 2

10. Which value in a routing table represents trustworthiness and is used by the router to determine which route to install into the routing table when there are multiple routes toward the same destination?

- **administrative distance**
- metric
- outgoing interface
- routing protocol

Explanation: The **administrative distance** (AD) represents the trustworthiness of a particular route. The lower an administrative distance, the more trustworthy the learned route is. When a router learns multiple routes toward the same destination, the router uses the administrative distance value to determine which route to place into the routing table. A metric is used by a routing

protocol to compare routes received from the routing protocol. An exit interface is the interface used to send a packet in the direction of the destination network. A routing protocol is used to exchange routing updates between two or more adjacent routers.

Question 3

6. What is a characteristic of a static route that matches all packets?

- It uses a single network address to send multiple static routes to one destination address.
- **It identifies the gateway IP address to which the router sends all IP packets for which it does not have a learned or static route.**
- It backs up a route already discovered by a dynamic routing protocol.
- It is configured with a higher administrative distance than the original dynamic routing protocol has.

Explanation: A default static route is a route that matches all packets. It identifies the gateway IP address to which the router sends all IP packets for which it does not have a learned or static route. A default static route is simply a static route with 0.0.0.0/0 as the destination IPv4 address. Configuring a default static route creates a gateway of last resort.

Question 4

9. Refer to the exhibit. What is the administrative distance value of the route for router R1 to reach the destination IPv6 address of 2001:DB8:CAFE:4::A?

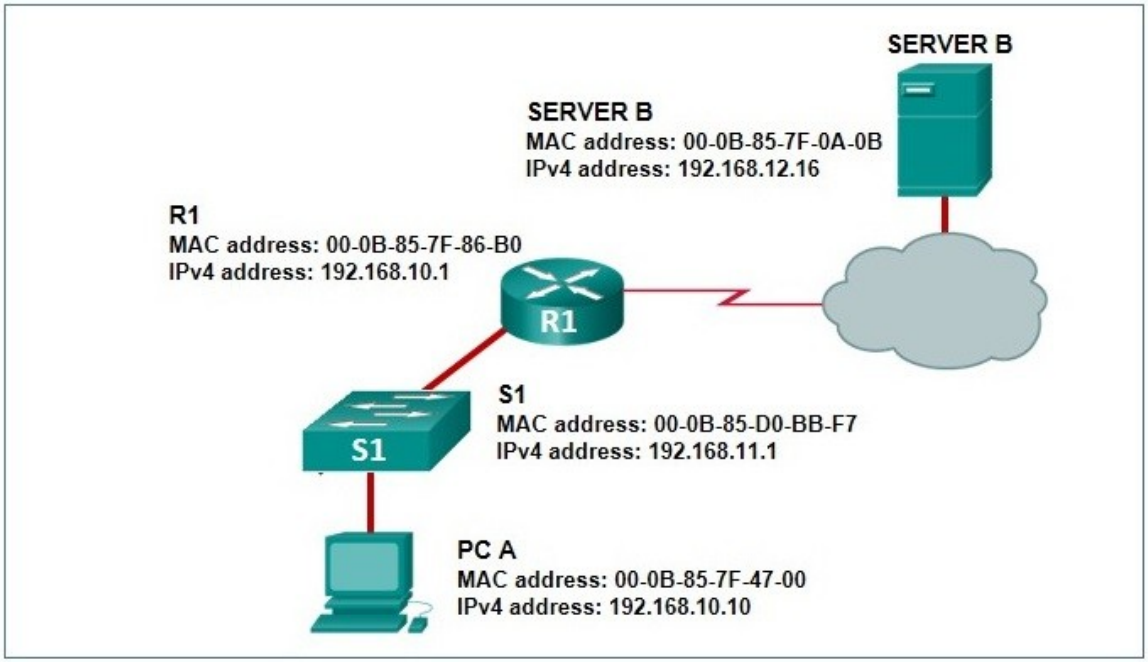
```
R1# show ipv6 route
IPv6 Routing Table - 8 entries

<output omitted>
S    ::/0 [1/0] via 2001:DB8:F00D::A
C    2001:DB8:CAFE:1::/64 [0/0] via GigabitEthernet0/1, directly connected
L    2001:DB8:CAFE:1::1/128 [0/0] via GigabitEthernet0/1, receive
S    2001:DB8:CAFE:2::/64 [1/0] via 2001:DB8:F00D:3::3
O    2001:DB8:CAFE:3::/64 [110/65]via GigabitEthernet0/0, directly connected
R    2001:DB8:CAFE:4::/64 [120/4]via GigabitEthernet0/1, directly connected
C    2001:DB8:F00D::/48 [0/0] via GigabitEthernet0/0, directly connected
L    2001:DB8:F00D::1/128 [0/0] via GigabitEthernet0/0, receive
L    FF00::/8 [0/0] via Null0, receive
```

- **120**
- 110
- 1
- 4

Explanation: The RIP route with the source code R is used to forward data to the destination IPv6 address of 2001:DB8:CAFE:4::A. This route has an AD value of 120.

Question 5

39. Refer to the exhibit. PC A sends a request to Server B. What IPv4 address is used in the destination field in the packet as the packet leaves PC A?

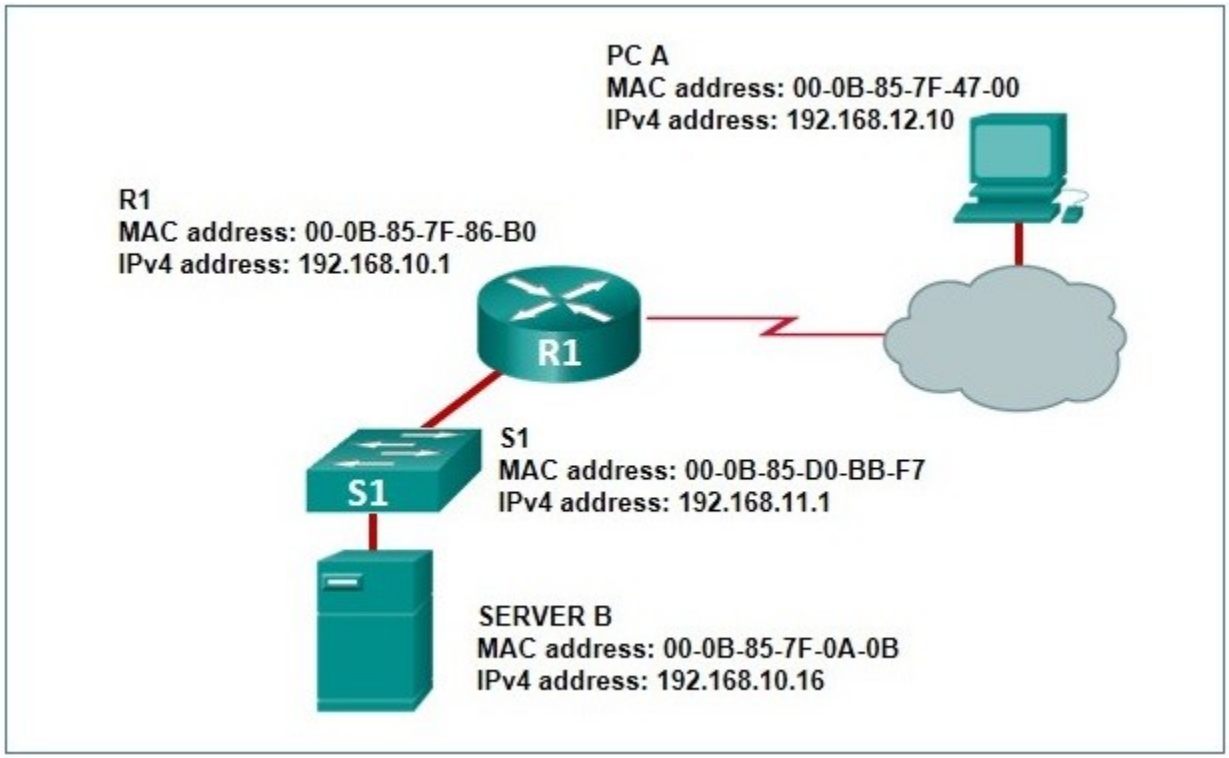


- 192.168.11.1
- 192.168.10.1
- **192.168.12.16**
- 192.168.10.10

Explanation: The destination IP address in packets does not change along the path between the source and destination.

Question 6

40. What does R1 use as the MAC address of the destination when constructing the frame that will go from R1 to Server B?



- **If the destination MAC address that corresponds to the IPv4 address is not in the ARP cache, R1 sends an ARP request.**
- R1 uses the destination MAC address of S1.
- The packet is encapsulated into a PPP frame, and R1 adds the PPP destination address to the frame.
- R1 leaves the field blank and forwards the data to the PC.

Explanation: Communication inside a local network uses Address Resolution Protocol to obtain a MAC address from a known IPv4 address. A MAC address is needed to construct the frame in which the packet is encapsulated.

Question 7

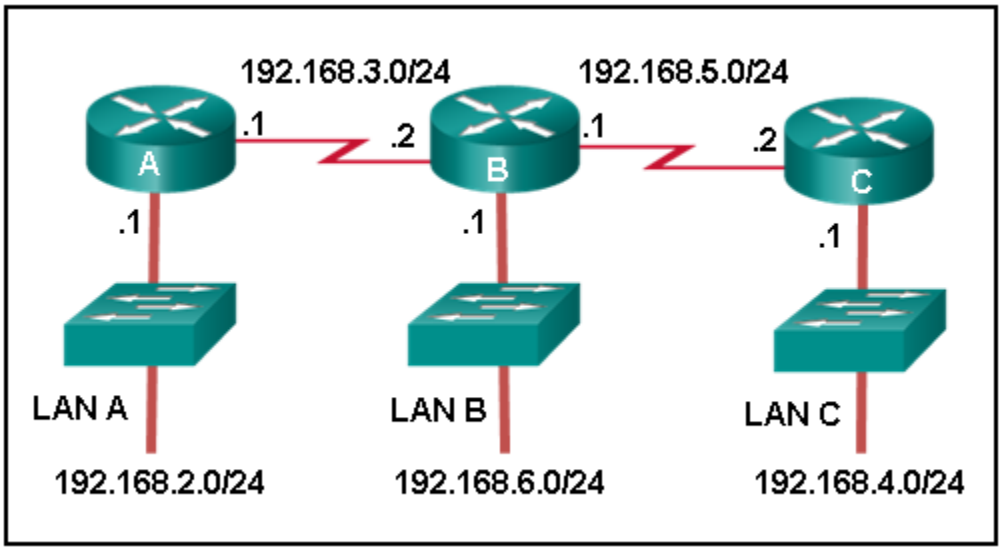
8. Which route would be used to forward a packet with a source IP address of 192.168.10.1 and a destination IP address of 10.1.1.1?

- C 192.168.10.0/30 is directly connected, GigabitEthernet0/1
- **O 10.1.1.0/24 [110/65] via 192.168.200.2, 00:01:20, Serial0/1/0**
- S* 0.0.0.0/0 [1/0] via 172.16.1.1
- S 10.1.0.0/16 is directly connected, GigabitEthernet0/0

Explanation: Even though OSPF has a higher administrative distance value (less trustworthy), the best match is the route in the routing table that has the most number of far left matching bits.

Question 8

12. Refer to the graphic. Which command would be used on router A to configure a static route to direct traffic from LAN A that is destined for LAN C?



- A(config)# ip route 192.168.3.0 255.255.255.0 192.168.3.1
- A(config)# ip route 192.168.3.2 255.255.255.0 192.168.4.0
- A(config)# ip route 192.168.4.0 255.255.255.0 192.168.5.2

- A(config)# ip route 192.168.5.0 255.255.255.0 192.168.3.2
- **A(config)# ip route 192.168.4.0 255.255.255.0 192.168.3.2**

Explanation: The destination network on LAN C is 192.168.4.0 and the next-hop address from the perspective of router A is 192.168.3.2.

Question 9

54. Refer to the exhibit. What two commands will change the next-hop address for the 10.0.0.0/8 network from 172.16.40.2 to 192.168.1.2? (Choose two.)

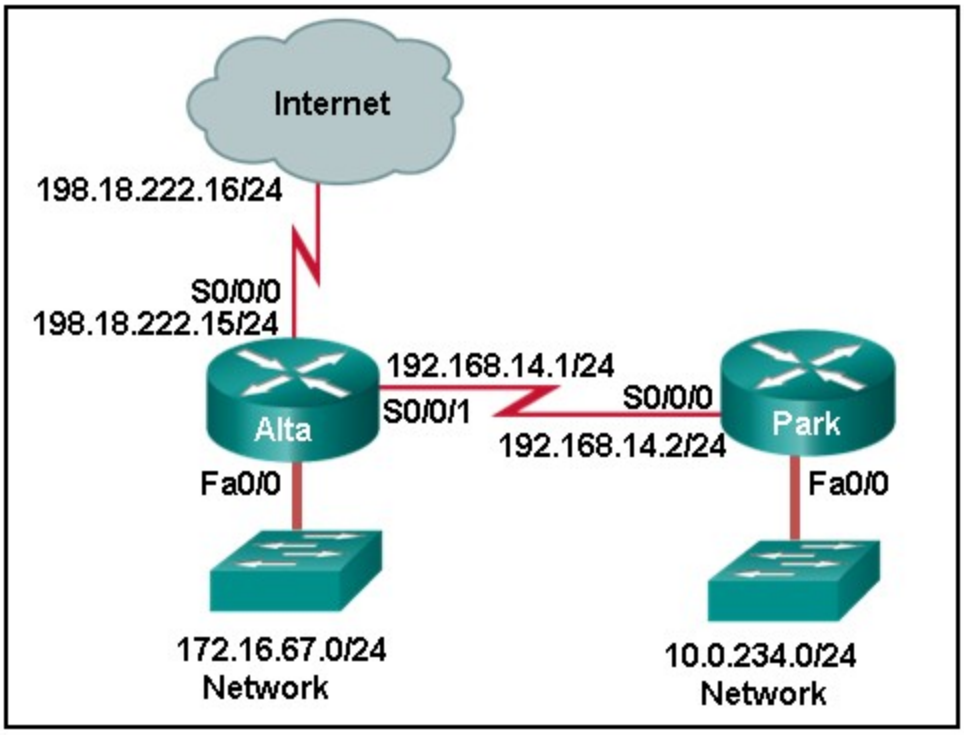
```
A# show ip route

<output ommited>
Gateway of last resort is not set

S   10.0.0.0/8 [1/0] via 172.16.40.2
    64.0.0.0/16 is subnetted, 1 subnets
C      64.100.0.0 is directly connected, Serial0/1/0
C   128.107.0.0/16 is directly connected, Loopback2
    172.16.0.0/24 is subnetted, 1 subnets
C      172.16.40.0 is directly connected, Serial0/0/0
C   192.168.1.0/24 is directly connected, FastEthernet0/0/0
S   192.168.2.0/24 [1/0] via 172.16.40.2
C   198.133.219.0/24 is directly connected, Loopback0
```

- **A(config)# ip route 10.0.0.0 255.0.0.0 192.168.1.2**
- A(config)# ip route 10.0.0.0 255.0.0.0 s0/0/0
- A(config)# no ip address 10.0.0.1 255.0.0.0 172.16.40.2
- A(config)# no network 10.0.0.0 255.0.0.0 172.16.40.2
- **A(config)# no ip route 10.0.0.0 255.0.0.0 172.16.40.2**

Explanation: The two required commands are **A(config)# no ip route 10.0.0.0 255.0.0.0 172.16.40.2** and **A(config)# ip route 10.0.0.0 255.0.0.0 192.168.1.2**.

Question 10

22. Refer to the exhibit. Which set of commands will configure static routes that will allow the Park and the Alta routers to a) forward packets to each LAN and b) direct all other traffic to the Internet?



- **Park(config)# ip route 0.0.0.0 0.0.0.0 192.168.14.1**
  Alta(config)# ip route 10.0.234.0 255.255.255.0 192.168.14.2
  Alta(config)# ip route 0.0.0.0 0.0.0.0 s0/0/0
- Park(config)# ip route 0.0.0.0 0.0.0.0 192.168.14.1
  Alta(config)# ip route 10.0.234.0 255.255.255.0 192.168.14.2
  Alta(config)# ip route 198.18.222.0 255.255.255.255 s0/0/0
- Park(config)# ip route 172.16.67.0 255.255.255.0 192.168.14.1
  Park(config)# ip route 0.0.0.0 0.0.0.0 192.168.14.1

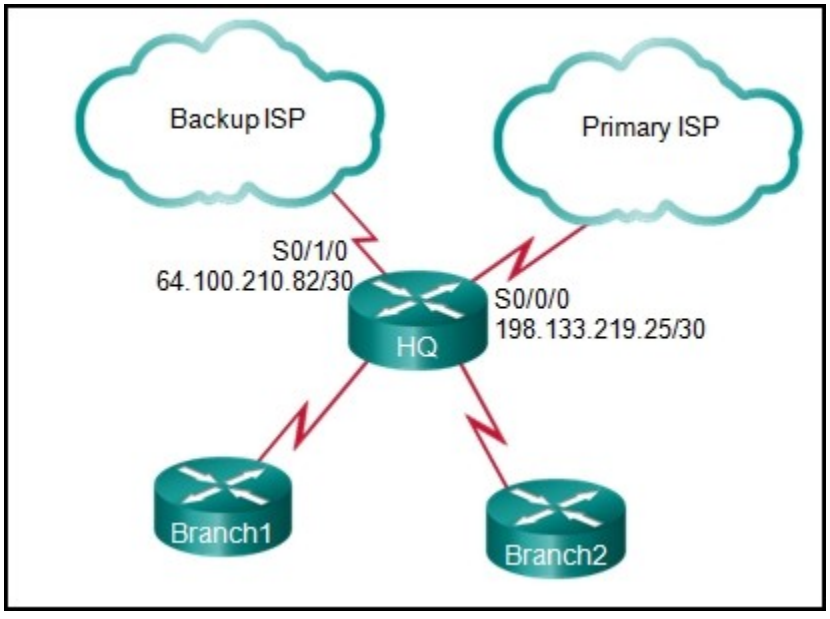
Alta(config)# ip route 10.0.234.0 255.255.255.0 192.168.14.2

- Park(config)# ip route 172.16.67.0 255.255.255.0 192.168.14.1
  Alta(config)# ip route 10.0.234.0 255.255.255.0 192.168.14.2
  Alta(config)# ip route 0.0.0.0 0.0.0.0 s0/0/1

Explanation: The LAN connected to the router Park is a stud network, therefore, a default route should be used to forward network traffic destined to non-local networks. The router Alta connects to both the internet and the Park router, it would require two static routes configured, one toward the internet and the other toward the LAN connected to the router Park.

Question 11

21. Refer to the exhibit. The network engineer for the company that is shown wants to use the primary ISP connection for all external connectivity. The backup ISP connection is used only if the primary ISP connection fails. Which set of commands would accomplish this goal?



- ip route 0.0.0.0 0.0.0.0 s0/0/0
  ip route 0.0.0.0 0.0.0.0 s0/1/0
- **ip route 0.0.0.0 0.0.0.0 s0/0/0**
  ip route 0.0.0.0 0.0.0.0 s0/1/0 10
- ip route 198.133.219.24 255.255.255.252
  ip route 64.100.210.80 255.255.255.252 10
- ip route 198.133.219.24 255.255.255.252
  ip route 64.100.210.80 255.255.255.252

Explanation: A static route that has no administrative distance added as part of the command has a default administrative distance of 1. The backup link should have a number higher than 1. The correct answer has an administrative distance of 10. The other quad zero route would load balance packets across both links and both links would appear in the routing table. The remaining answers are simply static routes (either a default route or a floating static default route).

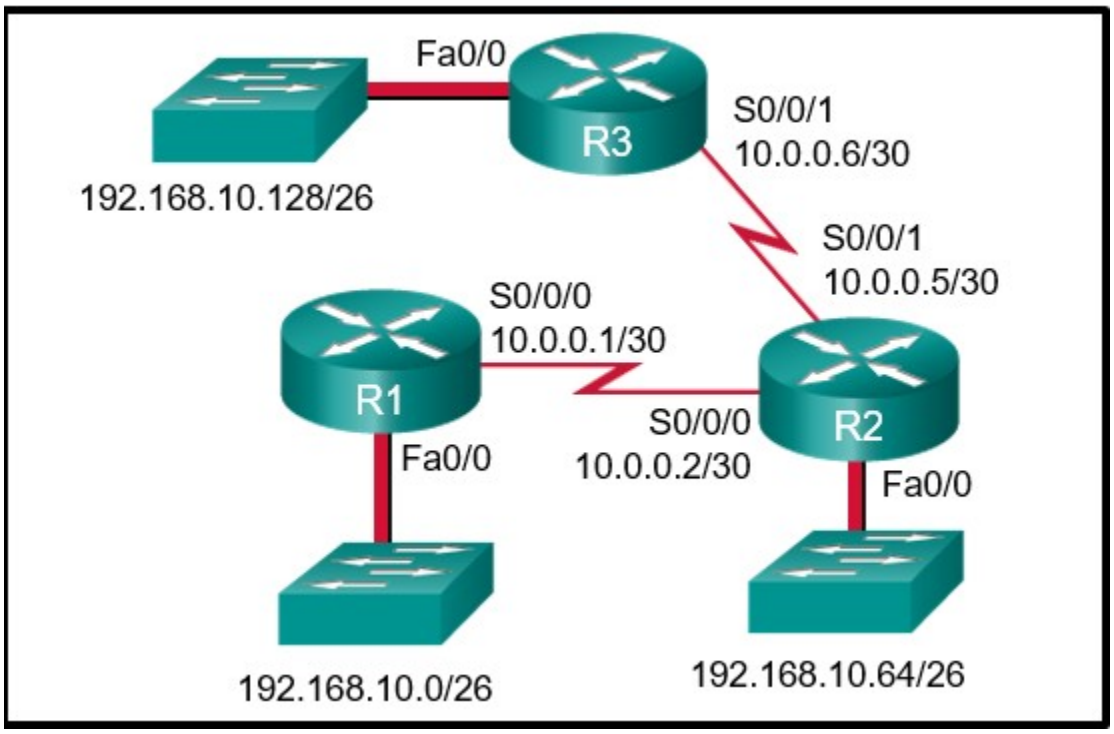
Question 12

18. Refer to the exhibit. The routing table for R2 is as follows:

Gateway of last resort is not set

10.0.0.0/30 is subnetted, 2 subnets
C 10.0.0.0 is directly connected, Serial0/0/0
C 10.0.0.4 is directly connected, Serial0/0/1
192.168.10.0/26 is subnetted, 3 subnets
S 192.168.10.0 is directly connected, Serial0/0/0
C 192.168.10.64 is directly connected, FastEthernet0/0
S 192.168.10.128 [1/0] via 10.0.0.6

What will router R2 do with a packet destined for 192.168.10.129?



- send the packet out interface FastEthernet0/0
- **send the packet out interface Serial0/0/1**
- drop the packet
- send the packet out interface Serial0/0/0

Explanation: When a static route is configured with the next hop address (as in the case of the 192.168.10.128 network), the output of the show ip route command lists the route as “via” a particular IP address. The router has to look up that IP address to determine which interface to send the packet out. Because the IP address of 10.0.0.6 is part of network 10.0.0.4, the router sends the packet out interface Serial0/0/1.

Question 13

45. Refer to the exhibit. Which type of IPv6 static route is configured in the exhibit?

```
ipv6 route 2001:0DB8::/32 2001:0DB8:3000::1
```

- floating static route
- fully specified static route
- **recursive static route**
- directly attached static route

Explanation: The route provided points to another address that must be looked up in the routing table. This makes the route a recursive static route.

Question 14

16. What network prefix and prefix-length combination is used to create a default static route that will match any IPv6 destination?

- FFFF::/128
- ::1/64
- ::/128
- **::/0**

Explanation: A default static route configured for IPv6, is a network prefix of all zeros and a prefix mask of 0 which is expressed as ::/0.

Question 15

43. A router has used the OSPF protocol to learn a route to the 172.16.32.0/19 network. Which command will implement a backup floating static route to this network?

- ip route 172.16.0.0 255.255.224.0 S0/0/0 100
- ip route 172.16.0.0 255.255.240.0 S0/0/0 200
- **ip route 172.16.32.0 255.255.224.0 S0/0/0 200**

- ip route 172.16.32.0 255.255.0.0 S0/0/0 100

Explanation: OSPF has an administrative distance of 110, so the floating static route must have an administrative distance higher than 110. Because the target network is 172.16.32.0/19, that static route must use the network 172.16.32.0 and a netmask of 255.255.224.0.

Question 16

17. Consider the following command:

ip route 192.168.10.0 255.255.255.0 10.10.10.2 5

What does the 5 at the end of the command signify?

- exit interface
- maximum number of hops to the 192.168.10.0/24 network
- metric
- **administrative distance**

Explanation: The 5 at the end of the command signifies administrative distance. This value is added to floating static routes or routes that only appear in the routing table when the preferred route has gone down. The 5 at the end of the command signifies administrative distance configured for the static route. This value indicates that the floating static route will appear in the routing table when the preferred route (with an administrative distance less than 5) is down.

Question 17

15. What is a characteristic of a floating static route?

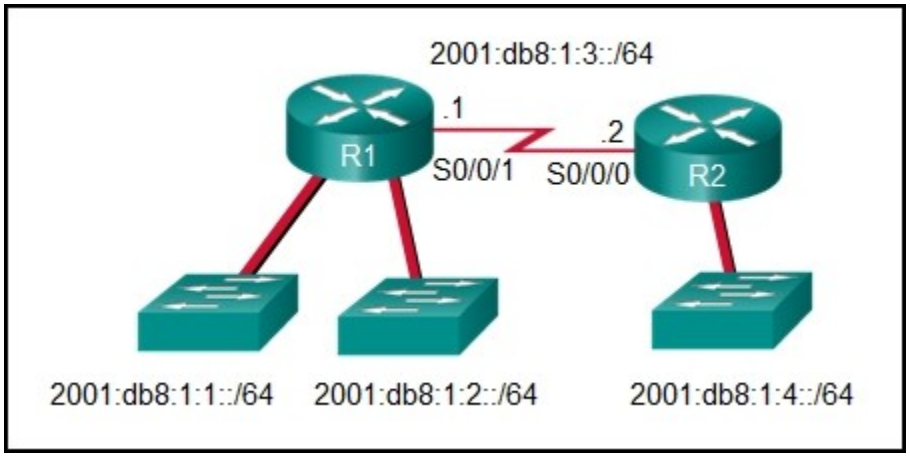
- When it is configured, it creates a gateway of last resort.

- It is used to provide load balancing between static routes.
- It is simply a static route with 0.0.0.0/0 as the destination IPv4 address.
- **It is configured with a higher administrative distance than the original dynamic routing protocol has.**

Explanation: Floating static routes are static routes used to provide a backup path to a primary static or dynamic route, in the event of a link failure. They must be configured with a higher administrative distance than the original dynamic routing protocol has. A default static route is simply a static route with 0.0.0.0/0 as the destination IPv4 address. Configuring a default static route creates a gateway of last resort.

Question 18

53. Refer to the exhibit. What command would be used to configure a static route on R1 so that traffic from both LANs can reach the 2001:db8:1:4::/64 remote network?

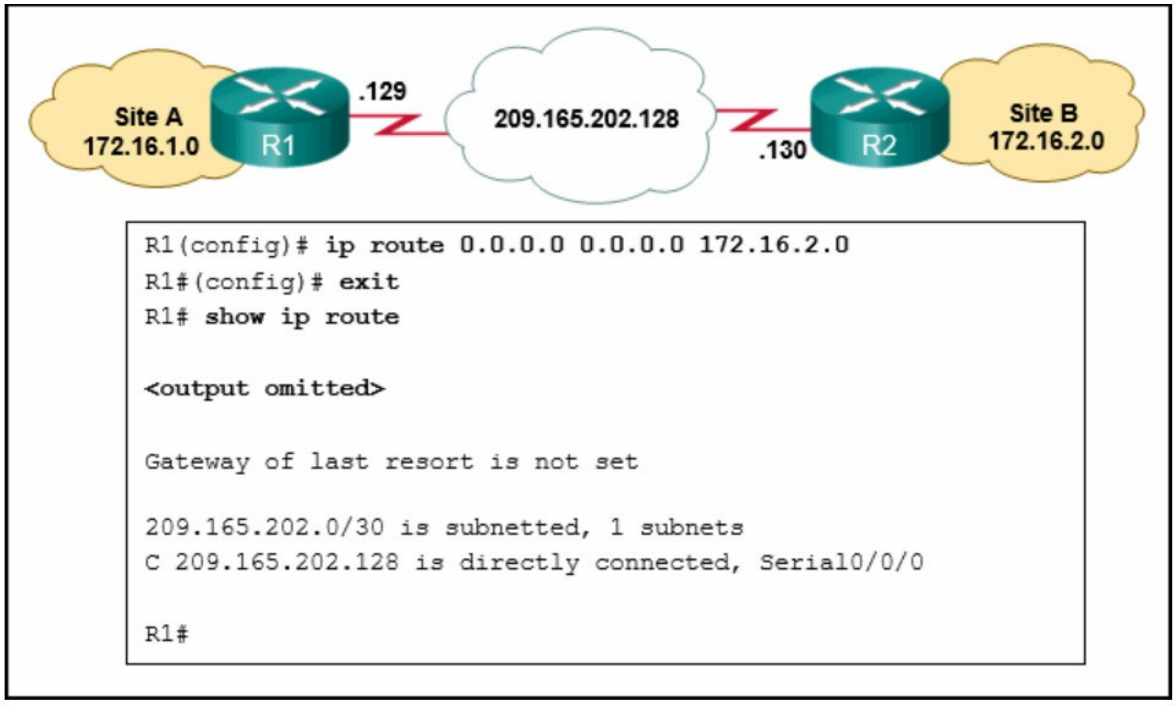


- ipv6 route 2001:db8:1:4::/64 2001:db8:1:3::1
- ipv6 route 2001:db8:1::/65 2001:db8:1:3::1
- ipv6 route ::/0 serial0/0/0
- **ipv6 route 2001:db8:1:4::/64 2001:db8:1:3::2**

Explanation: To configure an IPv6 static route, use the ipv6 route command followed by the destination network. Then add either the IP address of the adjacent router or the interface R1 will use to transmit a packet to the 2001:db8:1:4::/64 network.

Question 19

28. Refer to the exhibit. An administrator is attempting to install a default static route on router R1 to reach the Site B network on router R2. After entering the static route command, the route is still not showing up in the routing table of router R1. What is preventing the route from installing in the routing table?

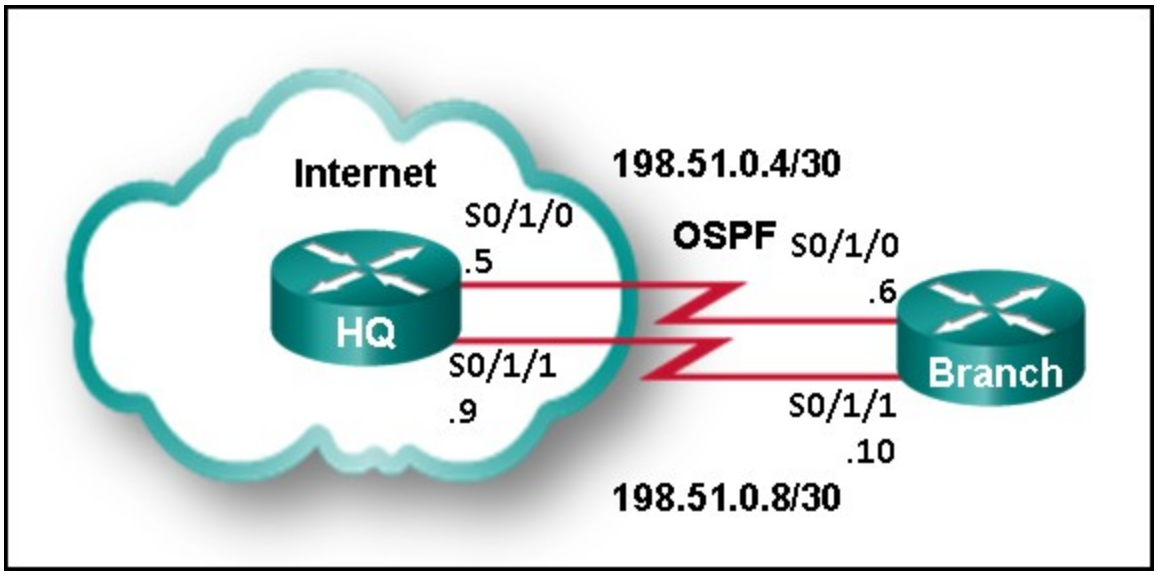


- The netmask is incorrect.
- The exit interface is missing.
- **The next hop address is incorrect.**
- The destination network is incorrect.

Explanation: The next hop address is incorrect. From R1 the next hop address should be that of the serial interface of R2, 209.165.202.130.

Question 20

29. Refer to the exhibit. The Branch Router has an OSPF neighbor relationship with the HQ router over the 198.51.0.4/30 network. The 198.51.0.8/30 network link should serve as a backup when the OSPF link goes down. The floating static route command ip route 0.0.0.0 0.0.0.0 S0/1/1 100 was issued on Branch and now traffic is using the backup link even when the OSPF link is up and functioning. Which change should be made to the static route command so that traffic will only use the OSPF link when it is up?



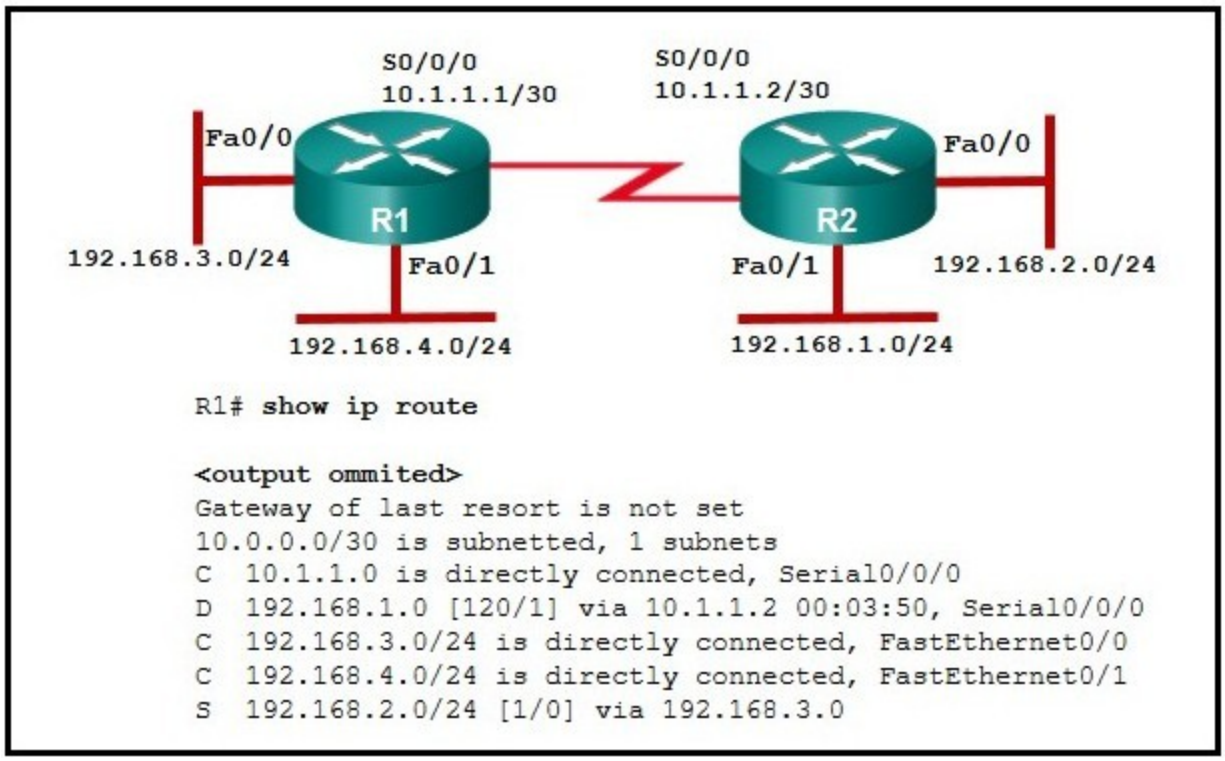
- Add the next hop neighbor address of 198.51.0.8.
- Change the administrative distance to 1.
- Change the destination network to 198.51.0.5.
- **Change the administrative distance to 120.**

Explanation: The problem with the current floating static route is that the administrative distance is set too low. The administrative distance will need to be higher than that of

OSPF, which is 110, so that the router will only use the OSPF link when it is up.

Question 21

27. Refer to the exhibit. A ping from R1 to 10.1.1.2 is successful, but a ping from R1 to any address in the 192.168.2.0 network fails. What is the cause of this problem?

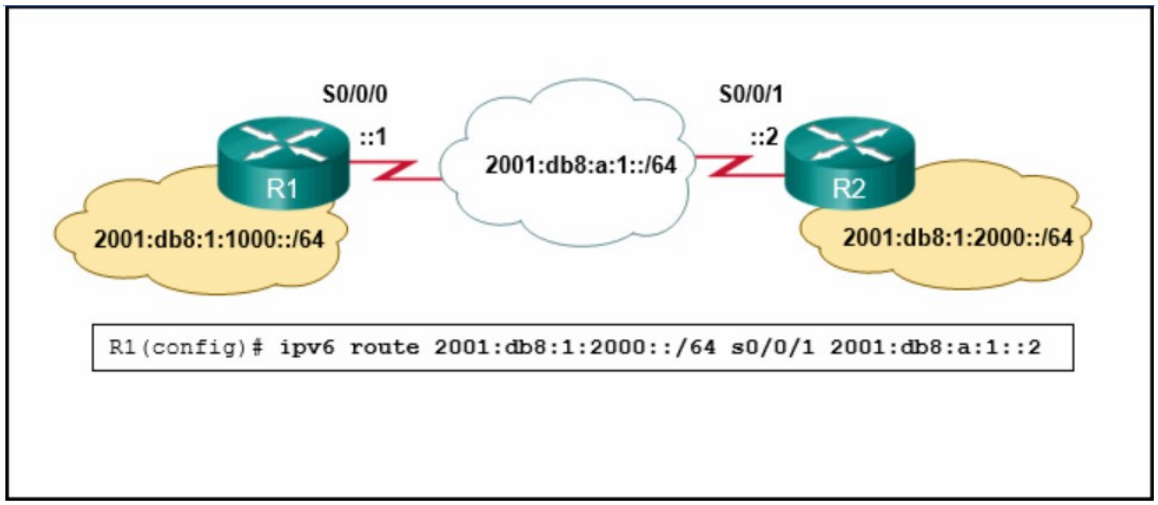


- There is no gateway of last resort at R1.
- **The static route for 192.168.2.0 is incorrectly configured.**
- A default route is not configured on R1.
- The serial interface between the two routers is down.

Explanation: ?

Question 22

24. Refer to the exhibit. An administrator is attempting to install an IPv6 static route on router R1 to reach the network attached to router R2. After the static route command is entered, connectivity to the network is still failing. What error has been made in the static route configuration?

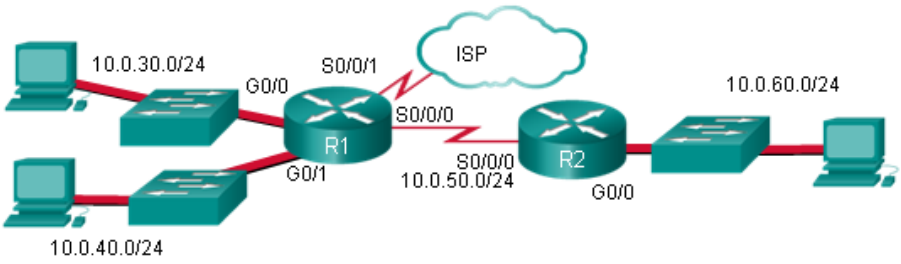


- The next hop address is incorrect.
- **The interface is incorrect.**
- The destination network is incorrect.
- The network prefix is incorrect.

Explanation: In this example the interface in the static route is incorrect. The interface should be the exit interface on R1, which is s0/0/0.

Question 23

23. Refer to the exhibit. The small company shown uses static routing. Users on the R2 LAN have reported a problem with connectivity. What is the issue?



R1#**show ip route**
<output omitted>

Gateway of last resort is 0.0.0.0 to network 0.0.0.0

10.0.0.0/8 is variably subnetted, 6 subnets, 7 masks
C 10.0.30.0/24 is directly connected, GigabitEthernet0/0
L 10.0.30.254/32 is directly connected, GigabitEthernet0/0
C 10.0.40.0/24 is directly connected, GigabitEthernet0/1
L 10.0.40.254/32 is directly connected, GigabitEthernet0/1
C 10.0.50.0/24 is directly connected, Serial0/0/0
L 10.0.50.1/32 is directly connected, Serial0/0/0
192.31.7.0/24 is variably subnetted, 2 subnets, 3 masks
C 192.31.7.96/30 is directly connected, Serial0/0/1
L 192.31.7.98/32 is directly connected, Serial0/0/1
S* 0.0.0.0/0 is directly connected, Serial0/0/1

R2#**show ip route**
<output omitted>

Gateway of last resort is 0.0.0.0 to network 0.0.0.0

10.0.0.0/8 is variably subnetted, 4 subnets, 5 masks
C 10.0.50.0/24 is directly connected, Serial0/0/0
L 10.0.50.2/32 is directly connected, Serial0/0/0
C 10.0.60.0/24 is directly connected, GigabitEthernet0/0
L 10.0.60.1/32 is directly connected, GigabitEthernet0/0
S* 0.0.0.0/0 is directly connected, Serial0/0/0

- **R1 needs a static route to the R2 LAN.**
- R2 needs a static route to the R1 LANs.
- R1 needs a default route to R2.
- R2 needs a static route to the Internet.
- R1 and R2 must use a dynamic routing protocol.

Explanation: R1 has a default route to the Internet. R2 has a default route to R1. R1 is missing a static route for the 10.0.60.0 network. Any traffic that reached R1 and is destined for 10.0.60.0/24 will be routed to the ISP.

Question 24

25. Refer to the exhibit. How was the host route 2001:DB8:CAFE:4::1/128 installed in the routing table?

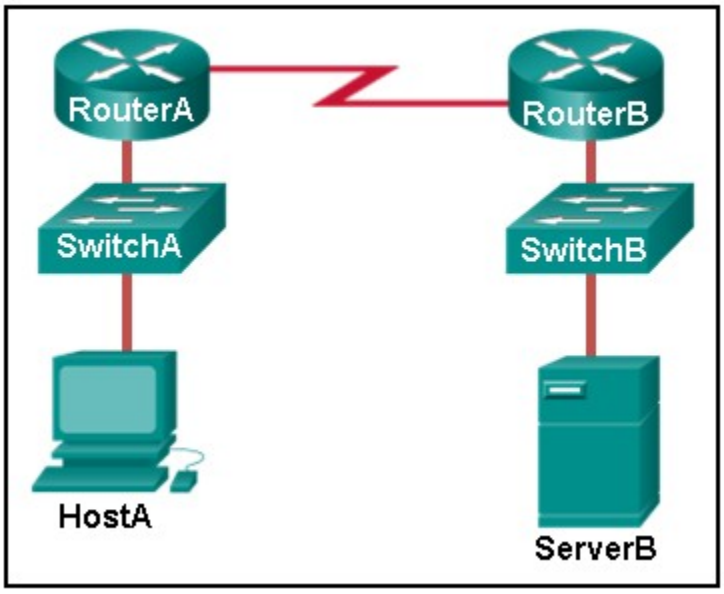
```
R1# show ipv6 route

<output omitted>

S ::/0 [1/0]
via Serial0/0/0, directly connected
C 2001:DB8:CAFE:1::/64 [0/0]
via GigabitEthernet0/1, directly connected
L 2001:DB8:CAFE:1::1/128 [0/0]
via GigabitEthernet0/1, receive
C 2001:DB8:CAFE:2::/64 [0/0]
via GigabitEthernet0/0, directly connected
L 2001:DB8:CAFE:2::1/128 [0/0]
via GigabitEthernet0/0, receive
C 2001:DB8:CAFE:3::/64 [0/0]
via Serial0/0/0, directly connected
L 2001:DB8:CAFE:3::1/128 [0/0]
via Serial0/0/0, receive
S 2001:DB8:CAFE:4::1/128 [1/0]
via Serial0/0/0, directly connected
L FF00::/8 [0/0]
via Null0, receive
```

- The route was dynamically created by router R1.
- The route was dynamically learned from another router.
- **The route was manually entered by an administrator.**
- The route was automatically installed when an IP address was configured on an active interface.

Explanation: A host route is an IPv6 route with a 128-bit mask. A host route can be installed in a routing table automatically when an IP address is configured on a router interface or manually if a static route is created.

Question 25

26. Refer to the exhibit. HostA is attempting to contact ServerB. Which two statements correctly describe the addressing that HostA will generate in the process? (Choose two.)



- A packet with the destination IP address of RouterA.
- A frame with the destination MAC address of SwitchA.
- **A packet with the destination IP address of ServerB.**
- **A frame with the destination MAC address of RouterA.**
- A frame with the destination MAC address of ServerB.
- A packet with the destination IP address of RouterB.

Explanation: In order to send data to ServerB, HostA will generate a packet that contains the IP address of the destination device on the remote network and a frame that contains the MAC address of the default gateway device on the local network.

Question 26

30. What characteristic completes the following statement?
When an IPv6 static route is configured, the next-hop address can be ……

- a destination host route with a /128 prefix.
- the “show ipv6 route static” command.
- **an IPv6 link-local address on the adjacent router.**
- the interface type and interface number.

Explanation: ?

Question 27

31. Gateway of last resort is not set.

172.19.115.0/26 is variously subnetted, 7 subnets, 3 masks
O 172.19.115.0/26 [110/10] via 172.19.39.1, 00:00:24, Serial0/0/0
O 172.19.115.64/26 [110/20] via 172.19.39.6, 00:00:56, Serial 0/0/1
O 172.19.115.128/26 [110/10] via 172.19.39.1, 00:00:24, Serial 0/0/0
C 172.19.115.192/27 is directly connected, GigabitEthernet0/0
L 172.19.115.193/27 is directly connected, GigabitEthernet0/0
C 172.19.115.224/27 is directly connected, GigabitEthernet0/1
L 172.19.115.225/27 is directly connected, GigabitEthernet0/1
172.19.39.0/24 is variably subnetted, 4 subnets, 2 masks
C 172.19.39.0/30 is directly connected, Serial0/0/0
L 172.19.39.2/32 is directly connected, Serial0/0/0
C 172.19.39.4/30 is directly connected, Serial0/0/1
L 172.19.39.5/32 is directly connected, Serial0/0/1
S 172.19.40.0/26 [1/0] via 172.19.39.1, 00:00:24, Serial0/0/0
R1#

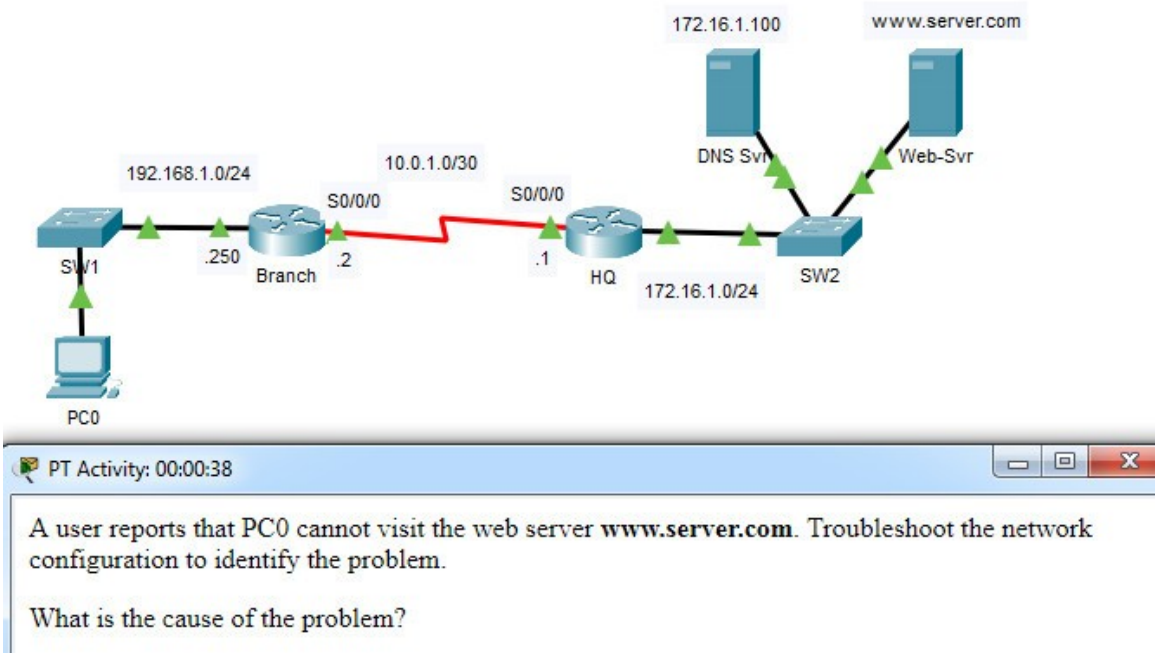
Refer to the exhibit. Which interface will be the exit interface to forward a data packet that has the destination IP address 172.19.115.206?

- GigabitEthernet0/1
- None, the packet will be dropped.
- **GigabitEthernet0/0**
- Serial0/0/1

Explanation: ?

Question 28

37. Open the PT Activity. Perform the tasks in the activity instructions and then answer the question.



A user reports that PC0 cannot visit the web server www.server.com. Troubleshoot the network configuration to identify the problem. What is the cause of the problem?

- The clock rate on one of the serial links is configured incorrectly.
- A serial interface on Branch is configured incorrectly.
- The DNS server address on PC0 is configured incorrectly.

- **Routing between HQ and Branch is configured incorrectly.**

Explanation: In order to allow communication to remote networks, proper routing, either static or dynamic, is necessary. Both routers must be configured with a routing method.

Question 29

36. Refer to the exhibit. Which static route would an IT technician enter to create a backup route to the 172.16.1.0 network that is only used if the primary RIP learned route fails?

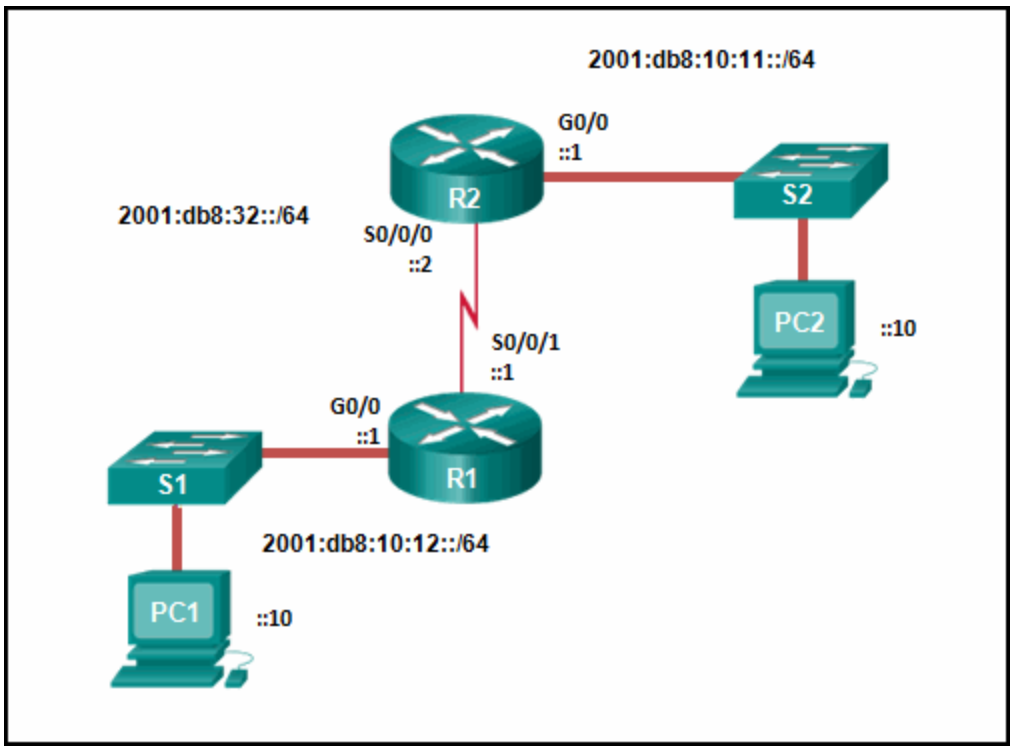
```
R1(config)# do show ip route
<output omitted>

Gateway of last resort is 0.0.0.0 to network 0.0.0.0

10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 10.0.0.0/30 is directly connected, Serial0/0/0
L 10.0.0.1/32 is directly connected, Serial0/0/0
172.16.0.0/24 is subnetted, 1 subnets
R 172.16.1.0/24 [120/1] via 10.0.0.2, 00:00:04, Serial0/0/0
192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.10.0/24 is directly connected, GigabitEthernet0/1
L 192.168.10.1/32 is directly connected, GigabitEthernet0/1
192.168.11.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.11.0/24 is directly connected, GigabitEthernet0/0
L 192.168.11.1/32 is directly connected, GigabitEthernet0/0
S* 0.0.0.0/0 is directly connected, Serial0/0/0
```

- ip route 172.16.1.0 255.255.255.0 s0/0/0
- **ip route 172.16.1.0 255.255.255.0 s0/0/0 121**
- ip route 172.16.1.0 255.255.255.0 s0/0/0 111
- ip route 172.16.1.0 255.255.255.0 s0/0/0 91

Explanation: A backup static route is called a floating static route. A floating static route has an administrative distance greater than the administrative distance of another static route or dynamic route.

Question 30

35. Refer to the exhibit. Which command will properly configure an IPv6 static route on R2 that will allow traffic from PC2 to reach PC1 without any recursive lookups by router R2?

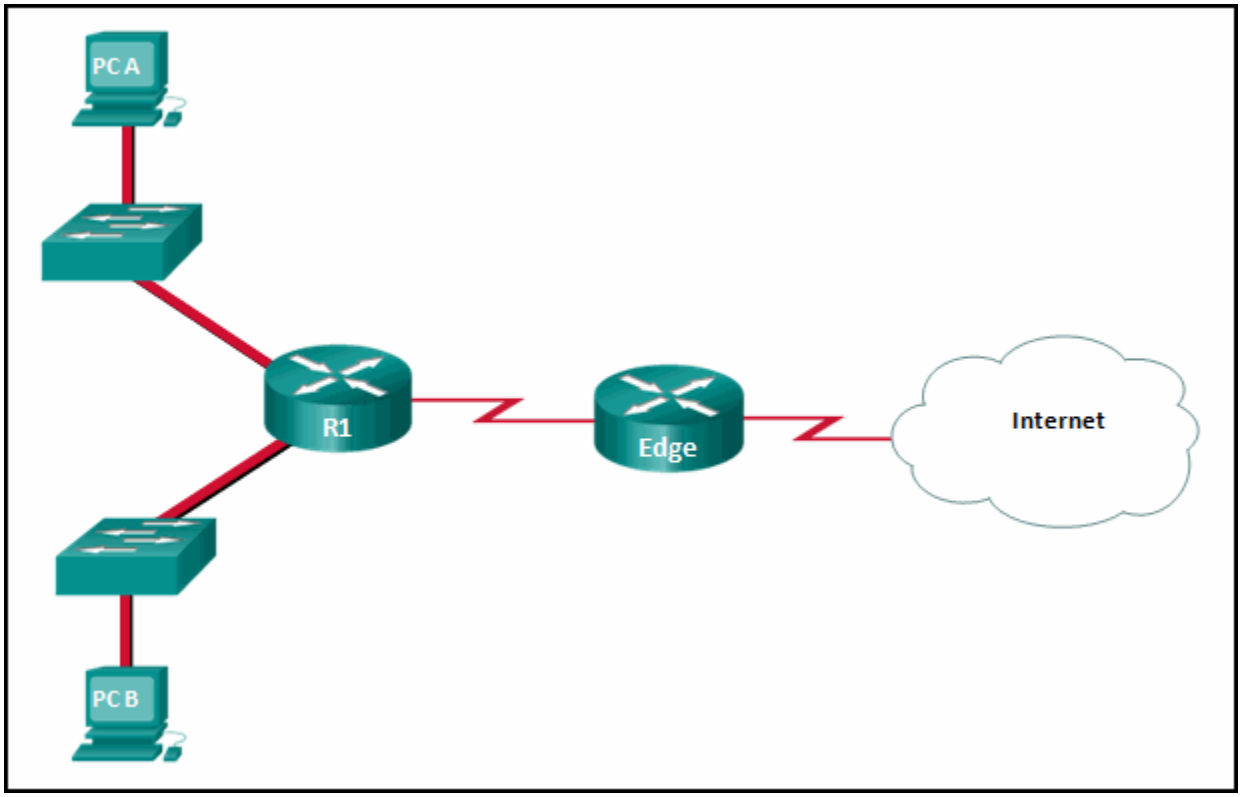


- R2(config)# ipv6 route ::/0 2001:db8:32::1
- **R2(config)# ipv6 route 2001:db8:10:12::/64 S0/0/0**
- R2(config)# ipv6 route 2001:db8:10:12::/64 2001:db8:32::1
- R2(config)# ipv6 route 2001:db8:10:12::/64 S0/0/1

Explanation: A nonrecursive route must have an exit interface specified from which the destination network can be reached. In this example 2001:db8:10:12::/64 is the destination network and R2 will use exit interface S0/0/0 to reach that network. Therefore, the static route would be ipv6 route 2001:db8:10:12::/64 S0/0/0.

Question 31

32. Refer to the exhibit. What routing solution will allow both PC A and PC B to access the Internet with the minimum amount of router CPU and network bandwidth utilization?



- Configure a dynamic routing protocol between R1 and Edge and advertise all routes.
- Configure a static route from R1 to Edge and a dynamic route from Edge to R1.
- **Configure a static default route from R1 to Edge, a default route from Edge to the Internet, and a static route from Edge to R1.**
- Configure a dynamic route from R1 to Edge and a static route from Edge to R1.

Explanation: Two routes have to be created: a default route in R1 to reach Edge and a static route in Edge to

reach R1 for the return traffic. This is a best solution once PC A and PC B belong to stub networks. Moreover, static routing consumes less bandwidth than dynamic routing.

Question 32

33. Refer to the exhibit. What would happen after the IT administrator enters the new static route?

```
R1(config)# do show ip route
<output omitted>

Gateway of last resort is 0.0.0.0 to network 0.0.0.0

10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 10.0.0.0/30 is directly connected, Serial0/0/0
L 10.0.0.1/32 is directly connected, Serial0/0/0
172.16.0.0/24 is subnetted, 1 subnets
R 172.16.1.0/24 [120/1] via 10.0.0.2, 00:00:04, Serial0/0/0
192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.10.0/24 is directly connected, GigabitEthernet0/1
L 192.168.10.1/32 is directly connected, GigabitEthernet0/1
192.168.11.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.11.0/24 is directly connected, GigabitEthernet0/0
L 192.168.11.1/32 is directly connected, GigabitEthernet0/0
S* 0.0.0.0/0 is directly connected, Serial0/0/0

R1(config)# ip route 172.16.1.0 255.255.255.0 s0/0/0
```

- The 172.16.1.0 static route would be entered into the running-config but not shown in the routing table.
- **The 172.16.1.0 route learned from RIP would be replaced with the 172.16.1.0 static route.**
- The 0.0.0.0 default route would be replaced with the 172.16.1.0 static route.
- The 172.16.1.0 static route is added to the existing routes in the routing table.

Explanation: A route will be installed in a routing table if there is not another routing source with a lower administrative distance. If a route with a lower administrative distance to the same destination network as

a current route is entered, the route with the lower administrative distance will replace the route with a higher administrative distance.

Question 33

34. What two pieces of information are needed in a fully specified static route to eliminate recursive lookups? (Choose two.)

- the interface ID of the next-hop neighbor
- **the interface ID exit interface**
- the IP address of the exit interface
- **the IP address of the next-hop neighbor**
- the administrative distance for the destination network

Explanation: A fully specified static route can be used to avoid recursive routing table lookups by the router. A fully specified static route contains both the IP address of the next-hop router and the ID of the exit interface.

100%

You have scored **100%**.

Congratulations, you have passed the exam.

You have used 1 of 1 attempt(s).

Review Assessment

Here is how you performed in each of the Learning Objectives and Skills associated with this assessment.

Basic Device Management. Initial Device Config. Routing
100%

Routing. Static Route. Types
100%

Routing. Static Route. Operation
100%